

Serial No. 10/780,248

Remarks

Claims 1-31 are pending in the application.

Claims 1-6, 17, 19, 27-29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent Publication No. 2002/013169 of Garret et al. published on September 19, 2002.

Claims 7-16, 18, and 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garret et al., which is combined with various other references.

Rejection Under 35 U.S.C. 102

Claims 1-6, 17, 19, 27-29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent Publication No. 2002/013169 of Garret et al. published on September 19, 2002.

The Office Action states that Garret et al. teaches all of the elements of applicants' independent claims 1 and 31. Applicants respectfully disagree and traverse this ground of rejection for at least the following reasons.

Diffraction grating 101 of Garret et al., which is pointed to by the Office Action as being applicants' recited at least one wavelength sieve/combiner that operates on discrete wavelength units, is **not** the same as applicants' recited element. Clearly, a diffraction grating is **not** at all structurally similar to applicants' recited at least one wavelength sieve/combiner that operates on discrete wavelength units as shown in applicants' FIGs. 2 and 3 and explained in applicants' specification at page 9, line 6 through page 10, line 9. Moreover, the diffraction grating of Garret et al. does **not** correspond functionally to applicants' recited element.

More specifically, regarding the functional differences, applicants note that a diffraction grating is continuous, in that it divides the input signal into continuous and contiguous spectral regions that are analogous to a rainbow. In other words, such a grating divides up the spectrum in a continuous and fixed manner by wavelength, and the spatial location at which each particular frequency of light appears is determined based on the wavelength and cannot be independently controlled.

C:\PATENTS\Kozhevnikov 1-17-10\Kozhevnikov 1-17-10 am.doc2

Serial No. 10/780,248

In fact, applicants described such a system as is disclosed in Garret et al., in applicants' background of the invention section of their specification at page 1, line 31 to page 2, line 8, stating:

The resultant collimated beam originating from the input port is then made incident on a diffraction grating, which angularly disperses the composite optical signal according to wavelength, thereby forming N separate beams, each being at a different wavelength and having a distinct propagation angle. Each of the N separate beams propagates to a single lens that is arranged to collect all the beams and provide, for each wavelength, a converging beam focused onto a particular micro mirror in an array containing N micro mirrors. Each mirror in the array is individually controlled to reflect the incident beam, which is at least one of the various wavelengths, in a desired direction, such that it will (a) re-enter the lens, (b) be collimated by the lens and redirected to a different location on the diffraction grating, and (c) be eventually coupled from the diffraction grating through a particular microlens in the microlens array to a desired output port, the particular microlens being aligned with the desired output port. (Emphasis added)

Applicants further explained the disadvantage of such a system, stating at page 2, lines 8-16, that:

Disadvantageously, such an arrangement is too expensive for a small number of wavelengths, because it requires the same costly precise alignment of all components independent of the number of wavelengths employed, so the per-wavelength cost is high for a small number of wavelengths. Such an arrangement is also relatively inflexible in regards to its wavelength splitting abilities. More specifically, the bandwidth is distributed homogenously over a plurality of micro mirrors. The mirror dimensions must be chosen to correspond to the desired wavelength bandwidth. This makes it desirable to have the smallest possible spacing between the mirrors. Furthermore, if there is a gap between the mirrors, there will be a gap between the wavelengths. (Emphasis added)

By contrast, applicants have clearly distinguished their invention from Garret et al., by defining their sieve/combiner in their specification at page 2, lines 23-29 to be functionally very different from a grating, stating:

Each wavelength sieve/combiner can split a wavelength division multiplexed (WDM) beam into various discrete wavelength unit beams each of which contains prescribed wavelength channels, or it can cause multiple copies of part or all of the wavelengths to be supplied as outputs.

Serial No. 10/780,248

Each wavelength sieve/combiner may also function in the opposite direction to combine such various beams into one wavelength division multiplexed beam. Typically, each fiber is associated with one wavelength sieve/combiner. (Emphasis added)

Applicants also stated at page 3, lines 3-5, that:

Advantageously, in contrast to the prior art system, due to the discrete nature of the wavelength units processed by a wavelength sieve/combiner, the beam width on the micro mirror is independent of the bandwidth of a data signal being carried by the beam. (Emphasis added)

Applicants further stated at page 3, lines 6-10, that:

If the thin film filters employed are not wavelength selective, but instead simply pass only a portion of all of the wavelengths, e.g., 10%, multiple copies of the input signal can be created. Each copy may then be routed to an output fiber, thus providing a broadcast function. Similarly, only some of the wavelengths may have only a portion passed, thereby creating copies of those wavelengths. (Emphasis added)

Note that if applicants had intended a diffraction grating rather than their recited sieve/combiner they could have simply stated a diffraction grating, but they did not, because that is not what they meant. Moreover, if applicants had intended to include a diffraction grating as a species within their sieve/combiner, they would not have distinguished their sieve/combiner from a diffraction grating. Clearly then, applicants' recited sieve/combiner is not structurally or functionally the diffraction grating of Garret et al., nor does it include such a diffraction grating, but instead is the device defined by applicants in the specification which is superior to, and patentably distinguishable, from a diffraction grating. Therefore, Garret et al. does not teach applicants' recited sieve/combiner, and so applicants' independent claims 1 and 31 are allowable over Garret et al. under 35 U.S.C. 102.

Since all of the dependent claims that depend from the currently amended independent claims include all the limitations of the respective independent claim from which they ultimately depend, each such dependent claim is also allowable over Garret et al. under 35 U.S.C. 102.

Serial No. 10/780,248

Rejection Under 35 U.S.C. 103(a)

Claims 7-16, 18, and 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garret et al., which is combined with various other references. Each of these grounds of rejection applies only to dependent claims, and each is predicated on the validity of the rejection under 35 U.S.C. 102 given Garret et al. Since the rejection under 35 U.S.C. 102 given Garret et al. has been overcome, as described hereinabove, and there is no argument put forth by the Office Action that any of the other cited references supplies that which is missing from Garret et al. to render the independent claims anticipated, these grounds of rejection cannot be maintained.

Therefore, applicants' claims are allowable over Garret et al. under 35 U.S.C. 103.

Serial No. 10/780,248

Conclusion

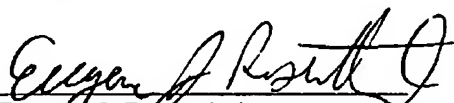
It is respectfully submitted that the Office Action's rejections have been overcome and that this application is now in condition for allowance. Reconsideration and allowance are, therefore, respectfully solicited.

If, however, the Examiner still believes that there are unresolved issues, he is invited to call applicant's attorney so that arrangements may be made to discuss and resolve any such issues.

In the event that an extension of time is required for this amendment to be considered timely, and a petition therefor does not otherwise accompany this amendment, any necessary extension of time is hereby petitioned for, and the Commissioner is authorized to charge the appropriate cost of such petition to the **Lucent Technologies Deposit Account No. 12-2325**.

Respectfully,

M. Kozhevnikov
D. T. Neilson
R. Ryf

By 
Eugene J. Rosenthal, Attorney
Reg. No. 36,658
732-949-1857

Lucent Technologies Inc.

Date: 1-18-06